Root-Cellaring for Fresh Produce All Winter

Mary Nisley

Agenda

- Gardening to eat through the fall & winter
- What is Root-Cellaring and why do it?
- What can be stored?
- How should it be harvested and stored?
- Traditional root cellars

Fall Eating Means Summer Planting

Crop	Date Xplants started	Date into the garden	Harvest
Lettuce	Mid-July	Early August	Mid-late Sept
Carrots	Direct Sown	Late June & July	November for root cellar
Broccoli	purchased	Around 8/7	Late October
Radish, Daikon	Direct Sown	Late July-8/15	Root-cellar before hard freeze
Cabbage Storage # 4	5/24	Mid-late June	Started Oct. 16
Peas, snap Cascadia	Direct Sown	8/6	10/1-10/27
Kohlrabi	Mid-July	Mid-August	10/15 – 11/15 root-cellared
Chinese Cabbage	Mid-July	Mid-August	Potted up

Plant Carrots Throughout July

- Shade to aid germination
- Water daily
- Harvest in November for root cellaring

What is Root-Cellaring?

- Storing fresh, raw vegetables and fruits for several months for winter eating

- Traditional way of storing food

Why use a root-cellar today?

- For the same reasons you grow your own food
- To deal with a surplus
- To buy food at its cheapest and use later
- Storage in root-cellar often superior to refrigerator

Root Cellar Characteristics

- Controlled temperature
  - Prevents growth
  - Prevents decomposition
  - Warm enough to prevent freezing
- Controlled humidity
  - Prevents shriveling
  - Prevents mold
- Ventilation

What should be stored in a root cellar?

Vegetables that are:

- Slow growing & solid
  - Dense, not watery
- Look for catalog notes:
  - Stores well
  - Winter keeper

Optimum Storage Conditions

Temp	32 °	32 °	40 ° - 50 °	55 ° - 60 °	50 ° - 55 °
Humidity	90 – 100%	65 – 70%	90%	85 - 90%	50 - 70%
	Beets Brussels Sprouts Cabbage Carrots Cauliflower Celeriac Leeks Rutabagas Turnips	Garlic Onions	Potatoes	Sweet Potatoes	Winter Squash

Chart courtesy Johnny's Selected Seeds http://www.johnnyseeds.com/

For best storage

- Select the right variety
- Harvest at the right time
- Cure if necessary
- Store in the right conditions

Winter Squash

- Store at 50°-55° & 50 – 70% humidity
- Harvest vine ripe squashes when temperatures drop below 50°
- Keep 2-3” of stem
- Cure at 70° several days
- Store on side

Best Squashes for Storage

- Butternut
- Spaghetti
- Rumbo
- Tetsukabuto
- Black Futsu
- Fairy
- Hubbard
- Ambercup
- Buttercup
- Turban

End of Storage Time 3/18/2010

Sweet Potatoes

Harvest
Sept. to frost

Sweet Potatoes 'Georgia Jets'

Cure Sweet Potatoes
Heals Wounds - Increases Sugars

- 80° – 90° & 85 – 90% humidity for 10 days
- Increase time for less than ideal conditions

Sweet Potatoes in Storage

- Store at 55°-50° & 85 -90% humidity

Onions – harvest when tops fold

- Do not store onions with thick necks

Cure Onions Before Storing

Copra – Cipollini - Patterson

Onions

- Store at 35-40°,

  65 – 70% humidity
- Sprouting depends on type & conditions
  - Period of dormancy
- Copra – until Feb. at 55°

Potatoes

- Store best at 40°
- Stored to Feb. at 55°
- Require darkness

Russet Burbank 2/11/2010 Kennebec

Root Crops: Carrots, Beets, Parsnips, Celeriac, Jerusalem Artichokes

- Mulch to protect exposed roots
- Harvest late November, just before the ground freezes
- Do not store damaged vegetables
- Clean gently, cleaning is optional
- Store at 32° and 90 – 100% humidity

Celeriac
or
Celery Root

My Root Cellar

Storage in Buckets

- Air circulation leave lids loose or ajar
- Drainage – place plate upside down in bottom of bucket & drain occasionally

Stored Carrots – Feb.11

Bolero

Red Cored Chantenay

Do NOT store apples with potatoes or carrots

Do NOT store cabbages inside - odors

In Ground Storage

- Ideal temperature & humidity for biennials
  - Carrots, leeks, parsnips, Jerusalem artichokes
- Protect to prevent freezing
- Must protect from animals

Mulch deeply to prevent freezing

Mark location

2/26/2011

Harvest as needed...

Leeks

Leeks: Tadorna

Traditional Root Cellars

- Walled off corner of unheated basement
  - Dirt floor
  - Window

Abraham Fort house

circa 1742

Photo courtesy of Judy Wolf

Traditional Root Cellar
Early 1900's
Pleasant Valley

Photo courtesy of Kathy Smith

Locust Grove

Potential Root Cellars

- Bulkhead basement door
  - Top step coldest, bottom warmest
- Container buried in garden
- Attic – poor choice
  - Drier, temperatures fluctuate more than basement
- Refrigerator
  - Poor air circulation
  - Very drying, but mold inside plastic bags

References

- Stocking Up from Rodale Press
- Root Cellaring by Mike & Nancy Bubel
- The Winter Harvest Handbook, Eliot Coleman

Conclusion

- Easy to store vegetables into January
- For longer storage, must get closer to optimum conditions

Drying

- Beans - dried on the plant
- Dehydrators

Freezing

- Blanch – steam or boil briefly before freezing
  - Stops enzymes, no ripening
  - Beans, kohlrabi, peas, corn, kale

- No blanch – peppers, onions, basil, parsley
- Tomatoes – roast then freeze, or stew

Canning

- Low acid vegetables must be pressure canned
- Can tomatoes, fruits in a boiling water bath

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